Patent claims

1. A method for the electrolytic deposition of an alloy comprising at least two constituents as a layer on a substrate (13),
which is arranged in an electrolyte (37),
in which electrolyte (37) at least two constituents (28, 31) of the alloy are suspended and/or dissolved,
a plurality of repeated voltage pulses (40) being used for the electrolytic deposition, combined in a sequence (34),
the sequence (34) comprising at least two different blocks (37),
one block (37) in each case being adapted to a constituent (28, 31) of the alloy,
in order to achieve optimum deposition of the constituent (28, 31),
a block (37) comprising two or more voltage pulses (40), and
a first block (37) of a sequence (34) being followed by a second block (37) in the same sequence (34) of the same polarity,
which second block has a higher or lower voltage level, on account of being adapted to one constituent (28, 31) of the alloy.

2. The method as claimed in claim 1, characterized in that mechanical vibrations are imparted to the electrolyte (7).

3. The method as claimed in claim 2, characterized in that an ultrasound probe (22) is operated in the electrolyte (7).

4. The method as claimed in claim 1, characterized in that a current/voltage pulse (40) which is used for the electrolytic deposition is defined by its time profile, which is in particular in square-wave or delta-wave form.

5. The method as claimed in claim 1, characterized in that a current/voltage pulse (40) is used for the electrolytic deposition, with both positive and negative current/voltage pulses (40) being used.

6. The method as claimed in claim 1, characterized in that a block (37) is defined by a number of current pulses (40), pulse duration (t_{on}), interpulse period (t_{off}), current intensity (I_{max}) and time profile.

7. The method as claimed in claim 1, characterized in that

an MCrAlY layer is deposited as an alloy on a substrate (13), with M being at least one element selected from the group consisting of iron, cobalt or nickel.

8. The method as claimed in claim 1, characterized in that gradients in the composition of the material are produced in an alloy layer to be produced.

9. The method as claimed in claim 1, characterized in that a base current is superimposed on the current pulses (40) and/or the interpulse periods.